

Facility for Rare Isotope Beams  
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## Education and Training

TU Darmstadt, Germany, Theoretical Nuclear Physics: Dr. rer. nat., Feb 2008  
TU Darmstadt, Germany, Theoretical Nuclear Physics: Diplom, Mar 2004

## Research and Professional Experience

Associate Director for Education	FRIB, MSU	2021 – present
Associate Professor	FRIB and Department of Physics & Astronomy, MSU	2021 – present
Assistant Professor	NSCL/FRIB and Department of Physics & Astronomy, MSU	2015 – 2021
FRIB Theory Fellow	NSCL/FRIB, MSU	2014 – 2015
Postdoctoral Researcher	The Ohio State University	2011 – 2014
Postdoctoral Researcher	NSCL, MSU	2009 – 2011
Postdoctoral Researcher	TU Darmstadt	2008 – 2009

## Selected Honors and Awards

- DoE Early Career Award 2017
- Dept. of Physics & Astronomy Favorite Graduate Teacher Award 2021, 2022

## Publications

*Overview:* 49 publications (excl. proceedings), 9 Phys. Rev. Lett. (1 Editor's Suggestion), 4 Phys. Lett B, 4 Phys. Rev. C (Rapid Comm.), 1 Phys. Rept.

*Citation Statistics:*

**Web of Science:** 2380 citations, average citations per item: 48.6, *h*-index : 28

**INSPIRE:** 2781 citations, average citations per item: 56.8, *h*-index : 29

## Selected works:

### *Overview Articles:*

1. “A Guided Tour of *Ab Initio* Nuclear Many-Body Theory”  
H. Hergert, *Front. Phys.* **8**, 379 (2020), arXiv: 2008.05061
2. “*Non-Empirical Interactions for the Nuclear Shell Model: An Update*”  
S. R. Stroberg, **H. Hergert**, S. K. Bogner, J. D. Holt, *Ann. Rev. Nucl. Part. Sci.* **69**, 307 (2019), arXiv: 1902.06154
3. “*In-Medium Similarity Renormalization Group for Closed- and Open-Shell Nuclei*”,  
H. Hergert, *Phys. Scripta* **92**, 023002 (2017), arXiv: 1607.06882 [nucl-th]

### *Many-Body Theory Developments and Applications:*

1. “*Ab initio* calculation of the contact operator contribution in the standard mechanism for neutrinoless double beta decay”  
R. Wirth, J. M. Yao, and **H. Hergert**, *Phys. Rev. Lett.* **127**, 242502 (2021), arXiv: 2105.05415
2. “*Ab Initio Treatment of Collective Correlations and the Neutrinoless Double Beta Decay of  $^{48}\text{Ca}$* ” J. M. Yao, B. Bally, J. Engel, R. Wirth, T. R. Rodríguez and **H. Hergert**, *Phys. Rev. Lett.* **124**, 232501 (2020), arXiv: 1908.05424
3. “*Implications of the  $^{36}\text{Ca}$ – $^{36}\text{S}$  and  $^{38}\text{Ca}$ – $^{38}\text{Ar}$  Difference in Mirror Charge Radii on the Neutron Matter Equation of State*” B. A. Brown, K. Minamisono, J. Piekarewicz, **H. Hergert**, D. Garand, A. Klose, K. König, J. D. Lantis, Y. Liu, B. Maaß, A. J. Miller, W. Nörtershäuser, S. V. Pineda, R. C. Powel, D. M. Rossi, F. Sommer, C. Sumithrarachchi, A. Teigelhöfer, J. Watkins, and R. Wirth, *Phys. Rev. Research* **2**, 022035(R) (2020)
4. “*Ab Initio Description of Open-Shell Nuclei: Merging No-Core Shell Model and In-Medium Similarity Renormalization Group*”, E. Gebrerufael, K. Vobig, **H. Hergert**, R. Roth, *Phys. Rev. Lett.* **118**, 152503 (2017), arXiv: 1610.05254 [nucl-th]

### *Computational Methods and Tools:*

1. “*ADG: Automated generation and evaluation of many-body diagrams III. Bogoliubov in-medium similarity renormalization group formalism*”  
A. Tichai, P. Arthuis, H. Hergert, T. Duguet, *Eur. Phys. J. A* **58**, 2 (2022) arXiv: 2102.10889
2. “*Singular Value Decomposition and Similarity Renormalization Group Evolution of Nuclear Interactions*”  
B. Zhu, **H. Hergert**, and R. Wirth, *Phys. Rev. C* **104**, 044002 (2021), arXiv: 2106.01302

## Selected Synergistic Activities

- *Co-Organizer*, INT Workshop “Renormalization Group Approaches to the Many-Body Problem”, 2020
- *Co-Organizer*, Nuclear Structure 2018, East Lansing, MI
- *Co-Organizer*, Advances in Rare Isotope Science (ARIS) 2017, Keystone, CO
- *Referee* for Annals of Physics, European Physics Journal A, Journal of Physics G, Nature, Nuclear Physics A, Physical Review C, Physical Review Letters, Physics Letters A/B, Physics Reports
- *Proposal Reviewer* for DoE, NSF
- Senior Investigator in SciDAC-5 NUCLEI Collaboration, MSU Quantum Horizons Collaboration